

WE CLAIM:

1. A tool extension assembly comprising:

(a.) an extension pole assembly comprising:

5 an elongated extension pole;

a connecting device connected to the extension pole, said connecting device having a cylindrical side wall with an interior surface defining a hollow interior, said side wall having a pair of opposing axially-extending openings formed therein;

10 a pin extending through the axially-extending openings and having end portions disposed exterior to the side wall of the connecting device, said pin being movable between a first position located proximate to the extension pole and a second position located distal to the extension pole; and

a spring disposed in the hollow interior of the connecting device and operable to bias the pin toward the first position;

15 (b.) a tool assembly comprising:

an implement;

a handle connected to the implement and having a hole formed therein;

20 an insert securely disposed in the hole of the handle, said insert having a cylindrical side wall with an interior surface defining a bore and interior edges at least partially defining a pair of opposing slots, each of said slots having an opening portion and an end portion and each of said slots extending axially and circumferentially along the side wall between the opening portion and the end portion; and

25 (c.) wherein said connecting device is receivable in the bore of the insert such that when said end portions of the pin are disposed in the opening portions of the slots and the handle of the tool assembly is rotated in a first direction, the interior edges of the insert move the pin against the bias of the spring toward the second position until the pin reaches the end portions of the slots, at which point the pin exerts a force against the interior edges of the insert that pulls the tool assembly and the extension pole assembly together.

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2. The tool extension assembly of claim 1, wherein said insert further comprises a flange joined to the side wall, said flange having a plurality of interior side surfaces at least partially defining a multifaceted socket that is in communication with the bore; and

5 wherein the connecting device further comprises a base from which the side wall extends, said base having a plurality of side surfaces that define a multi-faceted periphery that can mate with the socket such that the base can be snugly received within the socket and prevented from rotating therein; and

10 wherein when the pin exerts the force that pulls the tool assembly and the extension pole assembly together, the base is drawn into the socket, thereby preventing the tool assembly from being rotated relative to the extension pole assembly.

3. The tool extension assembly of claim 1, wherein said insert further comprises at least one concentric rib extending circumferentially around the side wall.

15 4. The tool extension assembly of claim 1, wherein said insert further comprises at least one lateral rib extending along the sidewall of the insert.

5. A tool extension assembly comprising:

20 (a.) an extension pole assembly comprising:

an elongated extension pole;

a connecting device connected to the extension pole, said connecting device having a cylindrical side wall with an interior surface defining a hollow interior, said side wall having a pair of opposing axially-extending openings formed therein;

25 a pin extending through the axially-extending openings and having end portions disposed exterior to the side wall of the connecting device, said pin being movable between a first position located proximate to the extension pole and a second position located distal to the extension pole; and

30 a spring disposed in the hollow interior of the connecting device and operable to bias the pin toward the first position;

(b.) a tool assembly comprising:

an implement;

a handle connected to the implement and having a hole formed therein;

an insert securely disposed in the hole of the handle, said insert having a  
5 cylindrical side wall with an interior surface defining a bore and interior edges at  
least partially defining a pair of opposing slots, each of said slots having an  
opening portion and an end portion and each of said slots extending axially and  
circumferentially along the side wall between the opening portion and the end  
portion;

10 (c.) wherein said insert further comprises at least one concentric rib extending  
circumferentially around the side wall; and

(d.) wherein said connecting device is receivable in the bore of the insert such that  
when said end portions of the pin are disposed in the opening portions of the slots and the  
handle of the tool assembly is rotated in a first direction, the interior edges of the insert  
15 move the pin against the bias of the spring toward the second position until the pin  
reaches the end portions of the slots, at which point the pin exerts a force against the  
interior edges of the insert that pulls the tool assembly and the extension pole assembly  
together.

20 6. The tool extension assembly of claim 5, wherein said insert further comprises a  
flange joined to the side wall, said flange having a plurality of interior side surfaces at  
least partially defining a multifaceted socket that is in communication with the bore; and

wherein the connecting device further comprises a base from which the side wall  
extends, said base having a plurality of side surfaces that define a multi-faceted periphery  
25 that can mate with the socket such that the base can be snugly received within the socket  
and prevented from rotating therein; and

wherein when the pin exerts the force that pulls the tool assembly and the  
extension pole assembly together, the base is drawn into the socket, thereby preventing  
the tool assembly from being rotated relative to the extension pole assembly.

7. The tool extension assembly of claim 5, wherein said insert further comprises at least one lateral rib extending along the sidewall of the insert.

8. A tool extension assembly comprising:

5 (a.) an extension pole assembly comprising:

an elongated extension pole;

a connecting device connected to the extension pole, said connecting device having a cylindrical side wall with an interior surface defining a hollow interior, said side wall having a pair of opposing axially-extending openings formed therein;

10 a pin extending through the axially-extending openings and having end portions disposed exterior to the side wall of the connecting device, said pin being movable between a first position located proximate to the extension pole and a second position located distal to the extension pole; and

15 a spring disposed in the hollow interior of the connecting device and operable to bias the pin toward the first position;

(b.) a tool assembly comprising:

an implement;

a handle connected to the implement and having a hole formed therein;

20 an insert securely disposed in the hole of the handle, said insert having a cylindrical side wall with an interior surface defining a bore and interior edges at least partially defining a pair of opposing slots, each of said slots having an opening portion and an end portion and each of said slots extending axially and circumferentially along the side wall between the opening portion and the end portion;

25 (c.) wherein said insert further comprises at least one concentric rib extending circumferentially around the side wall of the insert; and

(d.) wherein said connecting device is receivable in the bore of the insert such that when said end portions of the pin are disposed in the opening portions of the slots and the handle of the tool assembly is rotated in a first direction, the interior edges of the insert move the pin against the bias of the spring toward the second position until the pin

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reaches the end portions of the slots, at which point the pin exerts a force against the interior edges of the insert that pulls the tool assembly and the extension pole assembly together.

- 5           9. The tool extension assembly of claim 8, wherein said insert further comprises a flange joined to the side wall, said flange having a plurality of interior side surfaces at least partially defining a multifaceted socket that is in communication with the bore; and
- wherein the connecting device further comprises a base from which the side wall extends, said base having a plurality of side surfaces that define a multi-faceted periphery
- 10       that can mate with the socket such that the base can be snugly received within the socket and prevented from rotating therein; and
- wherein when the pin exerts the force that pulls the tool assembly and the extension pole assembly together, the base is drawn into the socket, thereby preventing the tool assembly from being rotated relative to the extension pole assembly.

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